WEST VIRGINIA SPLATTER
FEBRUARY 2025

Using a Hazer Tower Tram System

By Jim Hudson, KE8PNY
With help from:
Charlie Young, N8RR, Tim Stinespring, K8RRT, and Clark Stewart, W8TN

As part of Charlie Young's, N8RR Antenna 101 program, a few of us reported to David Poe's, W8IW home to replace a beam antenna mounted on a rotor on a Hazer equipted tower. Due to the work involved this required more than one visit. It took one day to assemble the new antenna and position it at the foot of the tower. Then a day to lower the old antenna and take it apart and get it out of the way. When trying to raise the new antenna we ran into problems. For at least three of us this was our first and only exposure to a Hazer.

A Hazer is an elevator assembly that completely surrounds a tower. For a triangular tower, the Hazer is a larger triangular structure that slides up and down the outside of the tower. The Hazer holds a rotor, mast, antennas and cables which normally mount on top of the tower. These components are assembled at or near ground level, bolted to the Hazer and then the whole assembly is hoisted to the top of the tower by a winch and cable arrangement similar to a winch on a boat trailer. This theoretically, allows all the work to be completed without climbing the tower. Spme people have reported difficulty installing a Hazer if the tower is too close to a house or eave. Using a Hazer also allows one to lower the antenna prior to a storm to provide protection from lightning and high winds. Apparently this is a common arrangement. Glenn Martin Engineering sold Hazers for Rohn towers and for their own towers too. However these Hazers are no longer manufactured. Some hams use home brewed versions of a Hazer.

As a side note, **none** of the amateur radio glossaries or texts I consulted had a definition for Hazer. None even mentioned it. I found a story by Justin Willett in the Columbia Daily Tribune (October 10, 2008) which identifies the creator of the Hazer as Glen Martin who began manufacturing it in the family business in the 1980s. Glen's son, Gary Martin, took the name “Hazer” from the rodeo world where it refers to the person who keeps the steer close to the person trying to take it down. The mechanical device they created kept the antenna close to the tower as it was taken down or put up. . Initially they make the Hazer to fit Rohn towers but soon began making towers of their own design.

As we spring chickens get older and become unable or unwilling to climb towers, a device like the Hazer looks attractive. For the most part, they work as designed but there can be occasional hitches in the implementation. Some of the possible problems require climbing the tower to fix things. Climbing the tower under a Hazer creates a serious safety hazard to both the climber and the antenna arrangement itself which must be mitigated.

Working on this Hazer equipped tower, we ran into some problems. This caused N8RR to look at EHam reviews where he found a history of safety issues. If one is using or working with a Hazer, it is prudent to know about these potential problems and to develop potential work arounds.

The manufacturer warns against climbing a Hazer equipped tower. However, there are malfunctions which you cannot recover from without climbing the tower. The solution is as simple as blocking the Hazer by inserting a steel bar through the tower. This is what one does on a crank up tower if one has to climb it. You mechanically block the tower so that it can't come down. If you block the Hazer, it cannot come down onto your hands and feet or head.

A common failure is the winch cable jumping off the top pulley and becoming jammed. The Hazer won't go up or down. It is also common for the pulley to actually break. Most are not very robust constructed pulley. In our project the bracket on the tower which secured the pulley broke and the pieces fell to the ground. This pulley was replaced with a more robust one brought by N8RR.

Any malfunction with the winch and pulley system also poses a serious safety hazard. After recovery from the pulley bracket failure, the next malfunction happened when the Hazer was within inches of being returned to the top of the tower. The cable which ran from the winch, up the tower to the pulley and back down to the Hazer broke. Fortunately, the antenna had rotated so the boom was across the tower top. This kept the assembly from falling. The system has a spring loaded aluminum latch which is designed to catch on a tower rung and arrest the fall if the lift cable breaks. Without further investigation, we don't know if this latch is engaging with a tower rung or not, but the way the antenna boom came down across the tower top, the system is safe as it stands.

The winch we were using was very hard to crank. We don't know if this Hazer was binding as it slid up the tower. Hazers have guide wheels as an option, but EHam reviews indicates these are of marginal, if any benefit. This one was not equipped with these wheels. The Hazer platform has a fair load on it. A 2013 Glen Martin catalog shows the specifications for the 3 models of Hazer they sold at that time. The "dead weight load" for all three models (H-2, H-3, and H-4) is between 150 and 200 pounds! When you consider the rotor, mast, antennas, and cables mounted on the Hazer, that load limit can very easily be exceeded.

If the Hazer was binding near the top of the tower, it could be due to a slight bend in a tower section or perhaps the Hazer load was a bit unbalanced. Rohn towers are fabricated, not machined so using it as a track is not perfect. Also, this tower had fallen once earlier in its life, so it is possible it has a bend that we didn't notice.

When weather permits we intend to replace the cable, the winch and the pulley on a newly fabricated steel pulley mounting bracket (manufactured by Mike Smoot, KD8GWH) to replace the broken aluminum one. This can be safely done because the Hazer is secure in the current position. Since the Hazer is blocked from falling by the tower, a lift jack may be taken up the tower to "help" it into the final position.

N8RR has never used a Hazer on his own towers. In his opinion, it is OK for a 40 to 50' tower with a single set of guys. It might be OK for a small tribander or a decent VHF antenna. For something bigger or higher, it seems too lightly built for his taste. Flimsy would be the word Charlie used to describe it. If you have to climb the tower to unjam a Hazer, or fix a jammed cable, you are exposed to a more hazardous situation than you would have if the antenna and rotor were installed conventionally on the tower. You can work around the hazards, but you better be aware of them and be knowlegeable enough to take the proper safety precautions.

K8RRT had a Hazer mounted on a 40-ft tower It was recommended to hoist it no higher than the next to the last rung on the tower section from the top of the tower. This helped keep the pulley from being pulled at a extreme angle which would pull the Hazer in a bind against the tower. Plus by pulling it farther to the tower side,this increased tension on the cable due to the binding and would cause the pulley to fail also.

When his Hazer neared to top of the tower it would hang up. When it took added strength to raise it, he would back off, lower it down and then attempt to pull it on up. Any tension change in the cable was a sign that the Hazer was caught on a bolt or in a bind between the Hazer frame and the tower itself. His tower also had two places where the Hazer would get hung up. He replaced the bolts with some with a smaller head to reduce the posibility of it hanging up

At that time K8RRT had a TA33 and a small 5 element 6 M beam with a 12-ft piece of galvanized pipe and a tail twister rotor. He was very close to the maximum operating weight. After a similar break in his lifting cable, he replaced the stock cable with 1/4-in cable and a much heavier pulley that was rated for lifting a thousand pounds. It was overkill, but it reduced the likelihhood of the pulley and cable breaking again. He was fortunate that the spring-loaded latch caught the rung as it was designed to do.

Two years later K8RRT went to a heavier tri-bander and a bigger 6 m beam. His Hazer became surplus. In 2017 Clark Strewart, W8TN purchased it for use on his EME tower. This tower is Rohn 25G and only 28-feet tall so there is no need for any guying. W8TN uses it to raise and lower his EME antennas for ease of working on them and to "hide" them from the neighbors when they arenot in use.

Without the ability to raise and lower them with the Hazer, he would have had to rent a man-lift or similar device many times. Below is a Blog post which shows the installation of the Hazer and the construction of the pulley block manufactured to replace the original which stayed on K8RRT's tower. W8TN also replaced the winch and winch cable.

https://w8tn.blogspot.com/2017/04/eme-tower-construction-progresses.html

Any device using a winch and cable requires regular maintenance to keep the winch and winch cable from rusting. Many, many crank-up towers have come down due to winch cable failures.

Raising a Hazer provides some great upper body exercise! W8TN considered installing a powered winch but, as has been mentioned by both K8RRT and N8RR, the Hazer can "hang up" during use. He felt a powered winch might just break something so he stayed with the manual method.

Having the Hazer can be a real advantage to installing, tuning, and maintaining any antenna. But like any device it requires periodic inspection and regular maintenance. Along with the knowledge and willingness to implement the safety precautions needed.

Learning about the diverse antennas used in amateur radio in the field and seeing them actually put into practice is one reason why we are happy to accompany Charlie, N8RR on his periodic antenna projects. I for one, have learned more about antennas in a few days with Charlie than from all the Antenna Books I own or have read!

THE RAILROAD TELEGRAPHER

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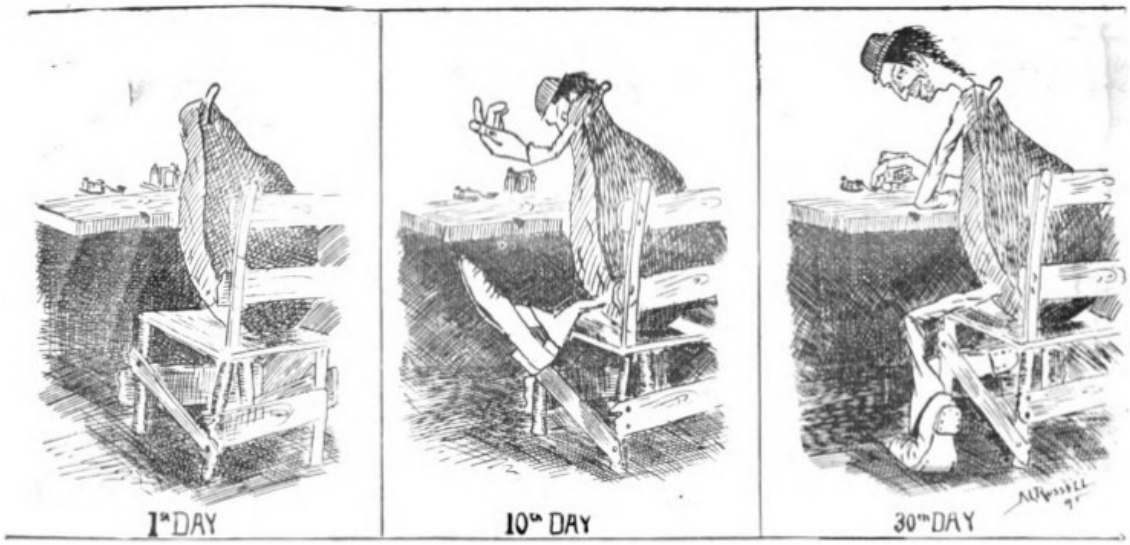
used by telegraphers and means an inefficient telegrapher; one who has very little ability to send or receive messages but who are eagerly sought after by some railroad superintendents of telegraph because they work cheap. Professors of telegraph colleges pay some of the superintendents a liberal fee for "curing" their hams, but some are so green that their presence in railroad offices causes trains to bump each other and passengers to wear wooden limbs and coffins. Newspaper dispatches tell the public such bumps were caused by an "error in train orders." If green hams were not being cured by avaricious railroad officials there would be fewer "errors in orders." The usual fee for curing hams is $5—but some first-class curers receive as high as $15. The largest ham factory is located in St. Louis, Mo., and is owned and operated by some railroad officials who are old enough to know better than to jeopardize public life and property by distributing green hams among the railroad stations. The only way this ham business can be regulated is by state legislation. Every railroad telegrapher should carry a certificate issued by a state board of examiners.



EVOLUTION OF A HAM.

The uninitiated may think that this ham is one of "Armour's best," but it is not. In fact it is not a ham at all; merely a young man from the country who has paid his tuition fee to a so-called Telegraph College. "Ham" is a term

NEW CARDS READY.

Another fiscal year is drawing to a close and every member should secure a new card. The organization representative of railroad telegraphers to be a complete success must be properly upheld financially. Each member is taxed a few dollars per year in order that the organization may have finances to pay its expenses. The railroad telegraphers of this country have reaped great financial benefit from the O. R. T. and

THIS PAGE IS ALSO THANKS TO CHARLIE YOUNG, N8RR!

COAX BY THE NUMBERS

There may be addition coax cables used in amateur radio. These are the ones I know of.

TYPE	IMPEDENCE	USE
RG 6/U	75 OHMS	Low Loss at High Frequency for TV, Cable TV, Satelite TV, Cable Modems
RG 6/UQ	75 OHMS	
RG 7	75 OHMS	
RG 8/U	50 OHMS	Amateur Radio
RG 8/X	50 OHMS	Amateur Radio similar to RG 8/U but the diameter is thinner; similar to RG 59
RG 58/U	50 OHMS	Radiocommunications and Amateur Radio, and thin Ethernet Standard cable for mobile installations.
RG 59/U	75 OHMS	Previouly used in cable TV
RG 213/U	50 OHMS	Radiocommunications and Amateur Radio, Lower loss than RG 58.
H 155	50 OHMS	Lower loss at High Frequencies for Radiocommunications and Amateur Radio,
H500	50 OHMS	Lower loss at High Frequencies for Radiocommunications and Amateur Radio,
LMR 240 EMR 240	50 OHMS	Low loss replacements for RG 8X
LMR 400 EMR 400	50 OHMS	Low loss line for communications
9913	50 OHMS	A version of RG 8U
EC4-50	50 OHMS	Semi ridgid hard line. Shield is corrugated copper.
EC5-50	50 OHMS	Semi ridgid hard line. Shield is corrugated copper.

WV SPLATTER

I continually need more and different types of articles for WV SPLATTER. If you know of an event coming up in a couple of months, have an idea for an article you want to write, or something you want me to research and write about, then drop me an email at nettlescreek@frontier.com

Use the same address to submit email addresses for anyone you think might be interested in being on the WV SPLATTER Distribution List. They don't have to be in West Virginia, they don't even have to be a ham.

OVERHEARD AT A RECENT WVDXA BREAKFAST

To mis-quote Teddy Roosevelt "For good portable operations; speak softly and carry a big antenna."

WEST VIRGINIA SPLATTER BACK ISSUES

The West Virginia Amateur Radio Club has posted back issues of WV SPLATTER on their website at www.wvar.com This emphasizes our intention that WV Splatter is a newsletter for all hams in West Virginia. Reposting WV SPLATTER on other club websites is encouraged. Just let me know so I can pass the word.

WEST VIRGINIA AMATEUR RADIO CLUB NETS

Northern Panhandle Amateur Radio Club
Sunday at 7:00 PM
Digital net 441.825

Kanawha Amateur Radio Club Net
Sundays at 8:30 PM
145.350 PL 91.5

8 Rivers ARC Net (Pocahontas County)
Sundays at 9:00 PM
145.11 PL 107.2

8 Rivers Six Meter Net (Pocahontas County)
Thursday, 9:00 PM
53.33 MHZ Tone 156

Ritchie Amateur Group (RAG) Net
Thursday at 9:00 PM
147.300 MHz Tone 107.2

Black Diamond ARC Net (Raleigh County)
Friday, 9:00 PM
145.370 MHz PL 100.0

CWVWA Net
Thursday 9:00 PM
147.165 MHz Tone 91.5

Coal Country ARC Net (Boone County)
Tuesday 9:00 PM
147.195 MHz

Eastern Panhandle Traffic Net
(Jefferson, Morgan and Berkley Counties)
Daily 6:45 PM
147.255 MHz Tone 123

Mason County Amateur Radio Group
Monday 9:00 PM
442.400 MHz Tone 91.5

Pioneer Amateur Radio Association 2 M Net
Central West Virginia
Tuesday 7:00 PM
146.835 MHz

Plateau Amateur Radio Association 2 M Net
Thursday 8:00 PM
146.790 MHz

Buffalo 10 Meter Net
Thursday 8:00 PM at 28.405

WV Amateur Radio Club Information Net
Tuesday at 8:30 P.M.
147.270 – offset PL Tone 123.0
EchoLink Node 439354

Parkersburg Amateur Radio Klub (P.A.R.K.)
Tuesdays, 9:00 PM on all linked repeaters.
146.970 MHz -offset Tone 91.5
147.390 MHz +offset Tone 91.5
444.725 MHz + offset Tone 91.5

Country Roads Net
Thursday 8:00 P.M
WV-Link Room 46488
Local Node Connection:
WVAR UHF 441.825 (Scott Depot, WV)
WB8CQV VHF 147.21 MHz (S.Charleston)
Hot spots use US-WV-LINK (19941)

Pocahontas County Coffee Net
Monday-Wednesday-Friday 10:30 AM
146.730 – Tone 100.0
EchoLink WB8CNN-L

Mon County Amateur Radio Club Net
Wednesday at 8:00 PM
147.075 Tone 103.5
Linked to HAMTALK System

JARC (Jackson County)
Monday 8:00 PM
146.670 MHz Tone 107.2

Monongalia Wireless Association
Monday 9:00 PM
145.430 MHz Tone 103.5

Mountain State FM Net (Tucker County)
Saturday 9:00 PM 145.370 MHz

Potomac Highlands Amateur Radio Net (Hardy)
Monday 8:30 PM
145.190 MHz

Stonewall Jackson ARA 2 M Net
Tuesday 9:00 PM
147.210 MHz Tone 103.5

DMR Net by David Sexton AB8D
Tuesday at 7:30 PM W8MOP 444.45 DMR repeater
on the 3154 WV statewide talk group

ICE COVERING JOHN BOGGESS'S FAN DIPOLE IN CHARLESTON, WV
JANUARY 2025
That's a 1:1 choke on a WARC band fan dipole which operates on 30,17,12 +6 meters.

Since I didn't know what WARC stands for I looked it up on DX Engineering's "ON ALL BANDS" Blog. "WARC stands for the World Administrative Radio Conference, which were technical meetings of the International Telecommunication Union held in Geneva, Switzerland, in 1979, 1984, and 1992. Since 1993, the gathering has been known as the World Radiocommunication Conference (WRC). Per the ARRL, original plans were to have WRC conferences held every two years, but budgetary and other issues have led to more infrequent meetings."

"It was in 1979 that WARC delegates allocated three narrow sections of the shortwave radio spectrum for use by amateur radio operators—30 meters, 10.100–10.150 MHz; 17 meters, 18.068–18.168 MHz; and 12 meters, 24.890–24.990 MHz. By tacit agreement among the community of hams, it is understood that these bands are not to be used for contesting—particularly during mega-events that routinely attract significant activity. This allows non-participants the opportunity to still get on the air during high-profile contests without having to deal with crowded HF bands, while letting contesters work each other without interference from hams more interested in making casual QSOs, practicing CW, or engaging in rag-chews."

WEST VIRGINIA ARES AND SKYWARN NETS

Kanawha ARES Net
Sundays at 8:00 PM
145.350 PL 91.5

Jefferson County ARES Net
Sunday at 8:30 PM
147.2WV Eastern Region ARES Net
Monday at 8:00 PM
147.255 MHz

Cabell County ARES Net
Monday at 8:30pm
On the following linked repeaters:
W8VA 146.76 MHz PL 131.8
N8OLC 146.985 MHz PL 131.8
KB8TGK 443.850 MHz PL 162.2 (Echolink)

Tri-Counties ARC ARES Net
Boone, Lincoln and Logan Counties
Tuesday at 7:30 PM
145.17 Tone 100.0

MARA weekly ARES WX net
Wednesdays, 9:00 P.M.
145.35 MHz PL 103.5

Marion County ARES Net
Wednesday 8:00 PM
145.350 MHz

*The West Virginia **ARES HF** Net*
First Thursday of each month
After WV Fone Net at 2200 UTC
3.805 MHz or 7.235 MHz

Mason County Amateur Radio Group ARES
Monday 9:00 PM
444.300 MHz Tone 91.5

Multi County ARES NET (HAMTALK System)
Tuesday 9:00 PM
146.685 MHz

Northern WV ARES/RACES Net
Wednesday 8:30 PM
145.300 MHz

TSARC Skywarn Net
Tuesday 7:15 PM
146.910 MHz

Blufield Skywarn Net Mercer County
Monday 7:30 PM (Except first Monday)
145.490 MHz

Raleigh County ARES Net
Monday 8:00
145.370 MHz Tone 100
EchoLink 145.370-R

Fayette County ARES Training and INFO Net
Second and Fourth Thursdays each
Month at 8:30 PM - 146.790 MHz

Tri-State Skywarn Net
Friday's at 8:00 PM
On WVAR's 147.27o Tone 123 linked to
Ashland' 's 146.94 repeater.

Ohio Valley ARES Net
Saturday 10:00 AM
441.825 Mhz

District 6 ARES Net (Mineral, Grant, Hardy, Morgan,Jefferson Berkeley and Hampshire)
Sunday 8:30 PM
147.390 MHz Tone 123

District 7 ARES Net (Raleigh County)
Tuesday 8:00 PM
145.370 MHz Tone 100

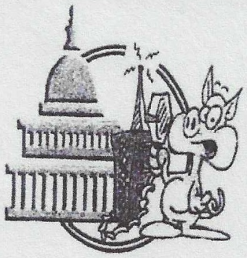
Gilmer County ARES/RACES Net
Monday 9:00 PM
145.290 MHz

Mercer County ARES Net
Third Thursday 7:30 PM
145.490 MHz

Ohio County ARES Net
Sunday 8:00 PM
146.760 MHz

Pendleton County ARES/RACES Net
Second and Fourth Thursday 8:30 PM
147.345 MHz

Wayne County ARES Net
Monday 9:00 PM
147.390 MHz



41st Annual

CHARLESTON AREA HAMFEST

Saturday, March 1, 2025
9 AM to 1 PM

BENI KEDEM TEMPLE
100 Quarrier Street
Charleston, WV 25301
Easy access off the interstates with
FREE PARKING BESIDE THE BUILDING!
(Handicap-accessible entrance left side)

Grand Prize: $500 Cash!
2nd Prize: Yaesu FTM-200D 2m/440/C4FM Digi/FM Xcvr
3rd Prize: $100 DX Engineering Gift Certificate

Plus Half-Hour Door Prize Drawings for Baofeng Dual Band Handhelds

Admission: $10 ("Extra" tickets $2 for more chances to win prizes)
Tables: $10
Limited Electric at no charge; first come-first serve (bring your own extension cord)

For table reservations, contact Fred Vickers WV8FV ***Reserve yours now—limited table space!***
wv8fv@arrl.net or 304-421-1707

Load in: Friday, Feb 28 from 2 to 4:30 PM
Saturday, March 1 from 7 to 8:30 AM
(bring your own cart for load-in)

Forums: ARRL 10 AM; ARES 11 AM
ARRL VE Testing at 12 Noon

For More Info: qsl.net/w8gk or E mail n8tmw@arrl.net